Mathematical Methods in the Applied Sciences

CONTENTS

VOLUME 18, Nos 1-15

Issue No. 1, January 1995

Large Time Asymptotics for a Class of Wave Equations of Higher Order with a Variable Coefficient and Time-independent Incitation: M. Winter.	1
Non-classical Interface Problems for Piecewise Homogeneous Anisotropic Elastic Bodies: L. Jentsch and D. Nastroshvili	27
Reciprocity Relations and Completeness of Far-field Pattern Vectors for Obstacle Scattering of Acoustic Wave in a Stratified Medium: Y. Xu	51
Connectivity Graphs on Two-dimensional Surfaces and their Applications in Robotics: K. Sun and V. J. Lumelsky	67
Issue No. 2, February 1995	
Non-orthogonal Expansions on the Sphere: W. Freeden and M. Schreiner	83
Continuous Dependence of the Scattering Amplitude on the Surface of an Obstacle: A. G. Ramm	121
Periodic Optimal Control for Parabolic Volterra-Lotka Type Equations: F. He, A. Leung and S. Stojanovic	127
Asymptotic Characterization of Standing Waves and of the Static Limit for a Class of Wave Equations of Higher Order with a Variable Coefficient and Time-independent Incitation: M. Winter	147
Issue No. 3, March 1995	
Local Existence of Solutions of Impedance Initial-boundary Value Problem for Nonlinear Maxwell Equations: R. Picard and W. M. Zajaczkowski	169

Indexed or abstracted by Applied Mechanics Reviews, Boundary Elements Abstracts, Cambridge Scientific Abstracts, Compumath Citation Index, CC/Phys. Chem & Earth Sciences, Engineering Index, Engineering Societies Library, INSPEC, Mathematical Reviews, Research Alert, SCISEARCH database, VINITI-USSR Academy of Science and Zentralblatt für Mathematik.

Physical Model, Theoretical Aspects and Applications of the Flight of a Ball in the Atmosphere. Part III: Theory in the Case of Vertical Angular Frequency and in the General Spin-case: P. M. Fuchs	201
Vacuum and Non-vacuum Solutions of the Quasi-hydrodynamic Semiconductor Model in Thermal Equilibrium: A. Unterreiter	225
Issue No. 4, 10 April 1995	
Existence of a Solution for a Lubrication Problem in Elastic Journal Bearing	
Devices with Thin Bearing: G. Bayada, J Durany and C. Vázques	255
Inverse Scattering from an Open Arc: R. Kress	267
On the Sharp Singular Limit for Slightly Compressible Fluids: H. Beirão da	
Veiga	295
Global Existence and Blow-up for a System of Heat Equations with Non- linear Boundary Conditions: K. Deng	307
Global Solutions for Operator Riccati Equations with Unbounded Coef-	307
ficients: A Non-linear Semigroup Approach: H. J. Kuiper	317
Issue No. 5, 25 April 1995	
On the Bending of Plates with Transverse Shear Deformation and Mixed Periodic Boundary Conditions: C. Constanda, M. Lobo and E. Pérez	337
Boundary Layer Resolution in Hierarchical Plate Modelling: C. Schwab	345
Global Solution to the Full One-dimensional Frémond Model for Shape Memory Alloys: P. Colli and J. Sprekels	371
The Free Boundary Problem of a Semiconductor in Thermal Equilibrium:	
A. Jüngel.	387
Remark on a Trace Theorem for Transmission Problems: J. Banasiak and A. Ligier	413
Issue No. 6, May 1995	
Thermal Deformations of Inhomogenous Elastic Plates: T. Tiihonen and R. Pietikäinen.	423
Averaging in Non-linear Advective Transport Problems: J. J. Heijnekamp, M. S. Krol and F. Verhulst	437
Integral Equations for the Diffraction Problems in the Wedge: Ju. K. Podlipenko	449
General Mathematical Concept of Compensation in Sports Science with Quantitative Analysis in the Case of Sprinting Performances: P. M. Fuchs.	473

Issue No. 7, 10 June 1995

A Generalization of the <i>H</i> -theorem to Steady Non-equilibrium States. Part 1: A Basic Decomposition and the Linear Case: L. Triolo	507
The Double Layer Potential Method for a Boundary Transmission Problem for the Laplace Operator in an Infinite Wedge: D. Mirschinka	515
An Application of the Limiting Absorption Principle to a Mixed Boundary Value Problem in an Infinite Strip: K. Doppel and R. Hochmuth	529
Stability of Semilinear Ill-posed Problems with a Prescribed Energy Bound: A. A. Lyashenko	549
Study of a Perforated Thin Plate, According to the Relative Sizes of its Different Parameters: S. El Otmani, JM. Sac-Épée and J. Saint Jean Paulin	571
Issue No. 8, 25 June 1995	
Uniqueness Theorems for a Nonlinear Tricomi Problem and the Related Evolution Problem: N. A. Lar'kin and M. Schneider	591
Optimal Preconditioner for Boundary Element Formulation of the Dirichlet Problem in Elasticity: S. Rjasanow	603
Regularizing Discretizations of the Birkhoff-Rott Equation: O. Friedrich and T. Sonar	615
Hyperbolicity of the Hydrodynamic Model of Plasmas under the Quasi- neutrality Hypothesis: S. Cordier	627
Convergence of Alternating Domain Decomposition Schemes for Kinetic Aerodynamic Equations: A. Klar	649
Nerodynamic Equations. A. Riai	047
Issue No. 9, July 1995	
About the Concept of Measure-valued Solutions to Distributed Parameter Systems: T. Roubiček and KH. Hoffmann	671
The Identification Problem for the Exponential Radon Transform: D. C. Solmon	687
Quaternionic Representation of the 3D Elastic and Thermoelastic Boundary Problems: A. Tsalik.	697
On a Kinetic Model for Shallow Water Waves: J. Struckmeier	709
Calculation of Microstrains and Microstresses in a Thick Non-symmetric	
Heterogeneous Plate by Homogenization: R. Tapiéro	723
System: D. J. McGillen	739

Issue No. 10, August 1995

A New System of Boundary Integral Equations for Plates with Free Edges: J. Giroire and JC. Nedelec.	755
Global Wellposedness for Quasi-linear Symmetric Hyperbolic Systems with Regularized Coefficients: D. Ascoli.	773
Similarity Solutions of Dispersive Long-wave Equations in Two Space Dimensions: SY. Lou.	789
The Sorption of Mixtures under Linear Equilibrium Partitioning and	803
On the Initial Value Problem for the Vlasov-Poisson-Fokker-Planck	825
Issue No. 11, 10 September 1995	
,	841
	855
-1	871
An Explicit Solution of the Pseudo-hyperbolic Initial Boundary Value Problem in a Multiply Connected Region: P. A. Krutitskii	897
Issue No. 12, 25 September 1995	
On the Stationary Quasi-Newtonian Flow Obeying a Power-law: E. Blavier and A. Mikelić	927
On some Second Order Non-linear Systems of a Hyperbolic–Parabolic Type: A. Chrzęszczyk.	949
A Discrete Velocity Coagulation-Fragmentation Model: M. Slemrod, A. Qi, M. Grinfeld and I. Stewart	959
The Problem of Primary Frost Heave with Frost Penetration: Zhengzhong Ding	995
Issue No. 13, October 1995	
On the One- and One-half-dimensional Relativistic Vlasov-Fokker-Planck- Maxwell System: R. Lai	1013
Weak Solution to a Non-linear Hyperbolic System Arising in the Theory of Dielectric Liquids: E. Feireisl.	1041

voiding contents.
On a Local in Time Solvability of the Neumann Problem of Quasilinear Hyperbolic Parabolic Coupled Systems: W. Dan
A Particle Method for a Self-gravitating Fluid: A Convergence Result: R. Di Lisio
Issue No. 14, November 1995
The i-lorm and the Essential Norm of the Double Layer Elastic and Hydrodynamic Potentials in the Space of Continuous Functions: G. I. Kresin and V. G. Maz'ya
Periodic Solutions for Differential Equations of Order Three, with Application to Heat-flux Induced Convection: M. C. Néel and D. Lyubimov 1133
The Free Streaming Operator: A Mathematical Model for Diffusive Multiplying Boundary Conditions: S. Totaro and A. Belleni-Morante 1165
Issue No. 15, December 1995
Initial-boundary Value Problems in Linear Viscoelasticity on the Half-space: J. Mark and E. Meister
On Sommerfeld's Half-plane Problem for the Equations of Linear Thermoelasticity: C. Erbe
Quaternion Non-linear Filter for Estimation of Rotating Body Attitude: L. I. Aramanovitch
AUTHOR INDEX